

PBS Evolution - Why Sex

This documentary is located under your AP Biology Class' Resources Link in Archie
Physically print out this worksheet and answer the questions as you watch the documentary.

Name: _____

Class: _____

Date: _____

Introduction

1. What is unusual about the reproduction of the desert grassland whiptail lizard?
2. What are three disadvantages of sexual reproduction, particularly the presence of males?
3. Most species on earth use (sexual / asexual) reproduction.

Sexual vs. Asexual Reproduction

4. What percent of the Poeciliid (minnow) population was affected with black spot disease?
5. Which minnows were affected by the disease more, the sexual or asexual reproducing group?
6. Describe the "Red Queen" theory of evolution.
7. How are the sexually-reproducing minnows like a "moving target" for the bacteria?
8. Why did the sexually-reproducing fish suddenly become more susceptible to disease following the severe drought?

9. What experiment did Robert Vrijenhoek conduct that reversed this trend?

Origin of Sexual Reproduction

10. Describe the theory of how sexual reproduction began with single-celled organisms.

11. Given the characteristics of sperm and eggs, why does evolution favor females that are selective or “choosy”?

Darwin's Dilemma and Sexual Reproduction

12. Explain why Darwin may have wrote “the sight of a peacock makes me sick.” How does its physical appearance seem to contradict natural selection?

13. Why did it take so long for the idea of female-driven sexual selection to be accepted?

14. What two characteristics of a male peacock do females look for in choosing a mate?

15. What impact did intentionally pairing females with males with more elaborate tail feathers have on their offspring?

Monogamy and Gender Roles

16. What is monogamy?

17. Why is it an advantage for songbirds (and humans) to practice monogamy?

18. Explain how the behavior of cheating might be an evolutionary advantage for songbirds.

19. Jacanas are tropical birds that lose a lot of offspring to crocodile predators. How has evolution changed their behavior to overcome this?

Chimpanzees and Bonobos

20. Compare the behavior and social structure of chimpanzees and bonobos.

21. How has infanticide influenced the reproductive behavior of chimpanzee females?

How and why has this affected the reproductive anatomy of chimpanzee males?

22. How are bonobo females able to avoid being dominated by males?

23. Explain the differences between the ecosystems of chimpanzees and bonobos that may be responsible for their differences in behavior.

What single event led to this change?

Evolutionary Psychology

24. Why does waste or garbage smell bad to humans, but not to dung beetles?

25. If human attraction were based on smell alone, what kinds of mates to women choose?

26. When given the choice, what types of characteristics do women prefer for a short-term relationship? A long-term relationship?

27. How might sex and attraction be related to artistic expression?

28. From the perspective of evolution, why is sex pleasurable and parenting rewarding?

29. What single behavior do humans have that is unique in the animal world?